Organic Electronics Technologies Workshop

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Dr. Schen is a Program Manager for the NIST Advanced Technology Program, Materials and Manufacturing Office, and leads the Microelectronics Manufacturing Infrastructure focused program. Dr. Schen's interests include organic electronics; advanced materials and polymers; electronic/photonic materials, devices, and packaging; and micro-miniature materials manufacturing. Prior to joining the ATP in 1997, Dr. Schen was the program manager for the NIST Laboratories' Electronic Packaging and Interconnection Program that develops high resolution, in-situ metrology for materials needed for today's back-end semiconductor, interconnection and electronics manufacturing sectors. Dr. Schen joined NIST as a staff scientist in mid-1986 after completing a Fulbright and French Government co-sponsored post-doctoral appointment in 1985 at the CNRS Laboratories in Montpellier, France. Dr. Schen received his Ph.D. in Polymer Science and Engineering from the University of Massachusetts in Amherst in late 1984, and gained his Bachelor's degree in chemistry from the Rochester Institute of Technology, Rochester, NY. Prior to his Ph.D., Dr. Schen spent five years on the research staff at the Eastman Kodak Co. in Rochester, NY.

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Dr. Powell is the Director of the Advanced Technology Program (ATP) at the National Institute of Standards and Technology (NIST). A 23-year veteran of the NIST laboratory research programs, Dr. Powell was Chief of the Biotechnology Division at the National Institute of Standards and Technology from 1991 - 1995 where she managed programs in DNA technologies, bioprocess engineering, biosensor technology and structural biology. Dr. Powell served as Chair of the Biotechnology Research Subcommittee (BRS) of the National Science and Technology Council, which coordinates all Federal biotechnology research from 1993 to 1995. She has also served as Chair of the Board of Overseers of the Center for Advanced Research in Biotechnology (a joint venture between the University of Maryland, NIST and Montgomery, Co., MD) and as Vice Chair of the ASTM Committee E-48 on Biotechnology. Her international activities included serving on the U.S. delegations to the U.S.-European Commission Task Force on Biotechnology and the OECD Working Party on Biotechnology.

Dr. Powell earned a Ph.D. in Chemistry from the University of Maryland. She is a member of the Federal Senior Executive Service and a member of the Board of Directors of the American Chemical Society. She is the recipient of the Department of Commerce Silver Medal Award for building the biotechnology research program at NIST and the Outstanding Public Service Award of the Montgomery County Chapter of the International Personnel Management Association for implementing innovative personnel management practices and leading the effort to establish an award-winning child care center at NIST.

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Conway L. Lackman has been an industry economic consultant for ATP since 1996. Since 1992, Dr. Lackman has provided market research and commercialization/ marketing plan consulting to high technology companies. Clients include: PPG, Ford, CNG, Zenith, and numerous high tech start up companies, such as Advanced Software Systems, Lone Wolf Systems . He also holds a tenured professorship on the faculty of Duquesne University's School of Business. Previously, he held managerial positions in product development and marketing research with various divisions in AT&T, Continental Insurance, and RJ. Reynolds. He is the author of 200 referred articles and proceedings papers. He holds a Ph.D in economics from University of Cincinnati and was a General Electric post-doctorate fellow at the University of Chicago.

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Jane Shaw is a Research Staff Member and Senior Manager of Materials and Processes at IBM Research in Yorktown. Since joining IBM at the T.J. Watson Research Center in Yorktown Heights, NY, her research has been focused on new fabrication techniques, lithographic materials, polymer materials, metallization, and interconnection technology for chip and packaging applications. Her contributions to lithography include the development of photoresist modelling techniques, the fabrication of new radiation sensitive polymers and a metallization process "silylation" which was used to fabricate all of IBM's bipolar logic chips. She has given invited papers, has organized and chaired sessions at international conferences, and has given many short courses for SUNY, the University of California at Berkeley, the American Vacuum Society, and the American Physical Society.

Jane Shaw has published over 60 papers and 3 book chapters, and has 38 patents and 29 technical disclosures in the area of polymer materials and processes for the semiconductor industry. She was awarded three Outstanding Innovation Awards and a Corporate Award by IBM for materials and processes that she invented and transferred to manufacturing. In 1990 she was appointed to the IBM Academy of Technology, and in 1994 was named a Master Inventor.

Jane Shaw serves on the External Advisory Board of the NSF Science and Technology Center for High Performance Composites and Adhesives, on the Industrial Advisory Board of the Massachusetts Institute of Technology; and on the External Advisory Board of the Materials Process Center at the University of Connecticut. Jane Shaw is a member of MRS and was elected a IEEE Fellow in 1996.

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Dr. James T. Yardley is Technical Director with AlliedSignal's Electronic Materials business. He has been leader of the Electronic and Optical Materials Skill Center in Morristown where he oversees the research of 47 scientists. He received a BS in Chemistry from Rice University in 1964 where he worked with Professor Robert F. Curl and the PhD in Physical Chemistry from University of California at Berkeley in 1967. He served as Assistant Professor and Associate Professor of Chemistry at University of Illinois, Champaign-Urbana from 1967 to 1977 where he received the Alfred P. Sloan fellowship and a Dreyfus Teacher-Scholar Award. He has published over 120 research papers and is listed as co-inventor on more than 25 US patents. At AlliedSignal, Dr. Yardley has led a research program to develop new polymeric optical materials. This program has led to the creation of a new business unit which is commercializing new technology in microoptical lighting elements, polymeric optical interconnection devices, optical display technology utilizing micro-optical devices to modify liquid crystal displays, and polymeric optical materials for both passive and active optical interconnections. He has recently initiated a new program to develop novel electronic materials for use in high density electronic circuitry.

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Ed Richley is a member of research staff at the Xerox Palo Alto Research Center (PARC) where he has been involved in the development of Gyricon display technology. Previously he was involved in wireless communication for local area networks. He has a B.S., M.S., and Ph.D. in Electrical Engineering from Carnegie-Mellon and has been at PARC since 1987.

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